MONITORING SYSTEM CERTIFICATION-DRAFT

For Use By All Jurisdictions Within the State of California
Authority Cited: Chapter 6.7, Health and Safety Code; Chapter 16, Division 3, Title 23, California Code of Regulations

This form must be used to document testing and servicing of monitoring equipment. If more than one monitoring system control panel is installed at the facility, a separate certification or report must be prepared for each monitoring system control panel by the technician who performs the work. A copy of this form must be provided to the tank system owner/operator. The owner/operator must submit a copy of this form to the local agency regulating UST systems within 30 days of test date. Instructions are printed on the back of this page.

A. General Information

Facility Name: ______________________________ Bldg. No.:__________

Site Address: ______________________________ City: ____________________ Zip: __________

Facility Contact Person: ______________________________ Contact Phone No.: (_______)________________

Make/Model of Monitoring System: ______________________________ Date of Testing/Servicing: ____/____/____

B. Inventory of Equipment Tested/Certified

Check the appropriate boxes to indicate specific equipment inspected/serviced:

Tank ID: ______________________	Tank ID: ______________________
❑ In-Tank Gauging Probe. Model: __________	❑ In-Tank Gauging Probe. Model: __________
❑ Annular Space or Vault Sensor. Model: __________	❑ Annular Space or Vault Sensor. Model: __________
❑ Piping Sump / Trench Sensor(s). Model: __________	❑ Piping Sump / Trench Sensor(s). Model: __________
❑ Fill Sump Sensor(s). Model: __________	❑ Fill Sump Sensor(s). Model: __________
❑ Mechanical Line Leak Detector. Model: __________	❑ Mechanical Line Leak Detector. Model: __________
❑ Electronic Line Leak Detector. Model: __________	❑ Electronic Line Leak Detector. Model: __________
❑ Tank Overfill / High-Level Sensor. Model: __________	❑ Tank Overfill / High-Level Sensor. Model: __________
❑ Dispenser Containment Sensor(s). Model: __________	❑ Dispenser Containment Sensor(s). Model: __________
❑ Shear Valve(s).	❑ Shear Valve(s).
❑ Dispenser Containment Float(s) and Chain(s).	❑ Dispenser Containment Float(s) and Chain(s).
❑ Other (specify equipment type and model in Section E on Page 2).	❑ Other (specify equipment type and model in Section E on Page 2).
Tank ID: ______________________	Tank ID: ______________________
❑ In-Tank Gauging Probe. Model: __________	❑ In-Tank Gauging Probe. Model: __________
❑ Annular Space or Vault Sensor. Model: __________	❑ Annular Space or Vault Sensor. Model: __________
❑ Piping Sump / Trench Sensor(s). Model: __________	❑ Piping Sump / Trench Sensor(s). Model: __________
❑ Fill Sump Sensor(s). Model: __________	❑ Fill Sump Sensor(s). Model: __________
❑ Mechanical Line Leak Detector. Model: __________	❑ Mechanical Line Leak Detector. Model: __________
❑ Electronic Line Leak Detector. Model: __________	❑ Electronic Line Leak Detector. Model: __________
❑ Tank Overfill / High-Level Sensor. Model: __________	❑ Tank Overfill / High-Level Sensor. Model: __________
❑ Dispenser Containment Sensor(s). Model: __________	❑ Dispenser Containment Sensor(s). Model: __________
❑ Shear Valve(s).	❑ Shear Valve(s).
❑ Dispenser Containment Float(s) and Chain(s).	❑ Dispenser Containment Float(s) and Chain(s).
❑ Other (specify equipment type and model in Section E on Page 2).	❑ Other (specify equipment type and model in Section E on Page 2).

C. Certification – *I certify that the equipment identified in this document was inspected/serviced in accordance with the manufacturers' guidelines. Attached to this Certification is information (e.g. manufacturers' checklists) necessary to verify that this information is correct and a Site Plan showing the layout of monitoring equipment. For any equipment capable of generating such reports, I have also attached a copy of the* **(check all that apply):** **System set-up report;** **Alarm history report.**

Technician Name (print): ______________________ Cert./Lic. No.: __________ Signature: ____________________

Testing Company Name: ______________________________ Phone No.: (______)________________

05/00

Instructions for Equipment Testing and Certification

General Instructions

1. Equipment that monitors underground storage tank systems containing hazardous materials must be tested/serviced annually, or on a schedule specified by the manufacturer, whichever is more frequent.

2. This certification form must be used to document the following activities: 1.) Periodic testing as described above; 2.) Testing of new monitoring systems upon installation; 3.) Testing of replacement sensors, probes, or other system components; and 4.) Testing of repaired sensors, probes, or other system components.

3. As noted on Page 1, a separate certification form must be completed for each individual monitoring system control panel. For example: If one control panel monitors in-tank gauging probes and another panel monitors electronic line leak detectors, two certification forms are required.

4. Except in the case of emergency repairs, many local agencies require that a permit be obtained prior to installing new monitoring systems or components (i.e. installation of new or different equipment, rather than using parts identical to those replaced). Check with your local agency for their requirements before starting work.

Section B

1. In the Tank ID sections, describe which tanks you worked on (e.g. Diesel Tank, North Tank, Middle Tank).

2. For compartmented tanks, list each compartment as a separate tank.

3. Where "Model" is asked for, the name of the manufacturer and the manufacturer's specific model name or number, as referenced in the "List of Leak Detection Equipment and Methods for Underground Storage Tanks" (i.e. LG-113) must be specified.

4. Hands-on functional testing of individual leak detection components to confirm operability to manufacturer's specifications and state regulations is required. This includes verifying any mechanical or electronic automatic shut-off features (e.g. dispenser floats and chains). In the case of sensors that can not be non-destructively tested, contact your local agency that regulates UST systems to see if they will approve alternate testing methods (e.g. testing of representative samples).

Section C

1. Certification must be made by a licensed and certified technician as per 23 CCR §_____.

2. All work associated with testing/servicing of equipment must be performed by or under the direct supervision of the certifying technician.

Section D

1. When testing operability of positive turbine shut-down, you must: 1.) verify shut-down by simulating a leak; and 2.) verify shut-down by disconnecting the sensor.

Attachments

1. **Site Plan -** You must attach a drawing showing the general layout of tanks and piping. Clearly identify locations of the following equipment, if installed: monitoring system control panels; sensors monitoring tank annular spaces, sumps, dispenser pans, spill containers, and other secondary containment areas; mechanical or electronic line leak detectors; and in-tank liquid level probes (if used for leak detection). Note the date the Site Plan was prepared.

2. **System Set-Up Report -** If the monitoring system or diagnostic equipment used in testing is capable of generating a hard-copy report describing system set-up, you must include a copy of the report with this Certification.

3. **Alarm History Report -** If the monitoring system is capable of generating a hard-copy alarm history report, you must include a copy of the report with this Certification. Relevant alarms that should appear in this report include overfill, high water, and leak detection equipment-related alarms. This report should be printed before you test any sensors.

Site Address: _____ Date of Testing/Servicing: ____/____/____

D. Results of Testing/Servicing

Software Version Installed: _____

Complete the following checklist:

❑ Yes	❑ No*	Is the audible alarm operational?
❑ Yes	❑ No*	Is the visual alarm operational?
❑ Yes	❑ No*	Were all sensors visually inspected, functionally tested, and confirmed operational?
❑ Yes	❑ No*	Were all sensors installed at lowest point of secondary containment and positioned so that other equipment will not interfere with their proper operation?
❑ Yes	❑ No* ❑ N/A	If alarms are relayed to a remote monitoring station, is all communications equipment (e.g. modem) operational?
❑ Yes	❑ No* ❑ N/A	For pressurized piping systems, does the turbine automatically shut down if the piping secondary containment monitoring system detects a leak, fails to operate, or is electrically disconnected? If yes: which sensors initiate positive shut-down? *(Check all that apply)* ❑ Sump/Trench Sensors; ❑ Dispenser Containment Sensors. Did you confirm positive shut-down due to leaks and sensor failure/disconnection? ❑ Yes; ❑ No.
❑ Yes	❑ No* ❑ N/A	For tank systems that utilize the monitoring system as the primary tank overfill warning device (i.e. no mechanical overfill prevention valve is installed), is the overfill warning alarm visible and audible at the tank fill point(s) and operating properly? If so, at what percent of tank capacity does the alarm trigger? _____%
❑ Yes*	❑ No	Was any monitoring equipment replaced? If yes, identify specific sensors, probes, or other equipment replaced and list the manufacturer name and model for all replacement parts in Section E, below.
❑ Yes*	❑ No	Was liquid found inside any secondary containment systems designed as dry systems? *(Check all that apply)* ❑ Product; ❑ Water. If yes, describe causes in Section E, below.
❑ Yes	❑ No*	Was monitoring system set-up reviewed to ensure proper settings? Attach set up reports, if applicable
❑ Yes	❑ No*	Is all monitoring equipment operational per manufacturer's specifications?

*** In Section E below, describe how and when these deficiencies were or will be corrected.**

E. Comments: _____

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Monitoring System Certification

Site Address: _____ Date of Testing/Servicing: ____/____/____

F. In-Tank Gauging / SIR Equipment:

❑ Check this box if tank gauging is used only for inventory control.
❑ Check this box if no tank gauging or SIR equipment is installed.

This section must be completed if in-tank gauging equipment is used to perform leak detection monitoring.

Complete the following checklist:

❑ Yes	❑ No*	Has all input wiring been inspected for proper entry and termination, including testing for ground faults?
❑ Yes	❑ No*	Were all tank gauging probes visually inspected for damage and residue buildup?
❑ Yes	❑ No*	Was accuracy of system product level readings tested?
❑ Yes	❑ No*	Was accuracy of system water level readings tested?
❑ Yes	❑ No*	Were all probes reinstalled properly?
❑ Yes	❑ No*	Were all items on the equipment manufacturer's maintenance checklist completed?

*** In the Section H, below, describe how and when these deficiencies were or will be corrected.**

G. Line Leak Detectors (LLD):

❑ Check this box if LLDs are not installed.

Complete the following checklist:

❑ Yes	❑ No* ❑ N/A	For equipment start-up or annual equipment certification, was a leak simulated to verify LLD performance? *(Check all that apply)* Simulated leak rate: ❑ 3 g.p.h.; ❑ 0.1 g.p.h ; ❑ 0.2 g.p.h.
❑ Yes	❑ No*	Were all LLDs confirmed operational and accurate within regulatory requirements?
❑ Yes	❑ No*	Was the testing apparatus properly calibrated?
❑ Yes	❑ No* ❑ N/A	For mechanical LLDs, does the LLD restrict product flow if it detects a leak?
❑ Yes	❑ No* ❑ N/A	For electronic LLDs, does the turbine automatically shut off if the LLD detects a leak?
❑ Yes	❑ No* ❑ N/A	For electronic LLDs, does the turbine automatically shut off if any portion of the monitoring system is disabled or disconnected?
❑ Yes	❑ No* ❑ N/A	For electronic LLDs, does the turbine automatically shut off if any portion of the monitoring system malfunctions or fails a test?
❑ Yes	❑ No* ❑ N/A	For electronic LLDs, have all accessible wiring connections been visually inspected?
❑ Yes	❑ No*	Were all items on the equipment manufacturer's maintenance checklist completed?

*** In the Section H, below, describe how and when these deficiencies were or will be corrected.**

H. Comments: _____

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Instructions for Testing Line Leak Detectors

Section G

1. Line leak detectors should be tested in-place, not removed.

2. The functional elements of the mechanical LLD are the piston and the diaphragm. To ensure that these elements are functioning properly, the submersible pump can be started and the time that the piston or diaphragm takes to move into a position to enable full flow of the product noted. The range of allowable opening times is specified by the manufacturer and is available in the equipment manual.

3. The presence of air pockets in the system will result in longer opening times since air is much more compressible than product.

4. Thermal expansion and compression may be a problem in areas where there are large temperature variances between day and night. The difference between product temperature and air temperature may be significant enough to create an expansion or contraction as the product is pushed up the line into the LLD.

5. The purpose of the relief valve is to ensure that the LLD can function properly and is not damaged by an excessive build-up of pressure behind the piston or diaphragm. If the pressure is excessive, the relief valve will vent into a copper tube that leads back to the tank. The connections to this tubing should be checked for leaks.